

NOAA SECTORAL APPLICATIONS RESEARCH PROGRAM (SARP)
PROJECT ANNUAL REPORT 2009-2010

PROJECT TITLE

DEVELOPMENT OF A “DROUGHT READY COMMUNITIES” PROGRAM

INVESTIGATORS

(Research team and full contact information)

Mark Svoboda (Lead PI), National Drought Mitigation Center, University of Nebraska-Lincoln, 815 Hardin Hall, Lincoln, Ne 68583-0988, msvoboda2@unl.edu, (402) 472-8238

Meghan Sittler, Lower Platte River Corridor Alliance (LPRCA) , 3125 Portia Street, Lincoln, NE, 68501-3581, msittler@lpsnrd.org, (402) 476-2729 *(no longer in NDMC position, but still on project in a reduced capacity with the LPRCA)*

Kelly Helm Smith, National Drought Mitigation Center, University of Nebraska-Lincoln, 821 Hardin Hall, Lincoln, NE 68583-0988, khsmith5@unl.edu, (402) 472-3373

Dr. Mark Shafer, Oklahoma Climatological Survey, 120 David L. Boren Blvd., Suite 2900 Norman, OK 73072-7305, Norman, Oklahoma, mshafer@mesonet.org, (405) 325-3044

Dr. Renee McPherson, Oklahoma Climatological Survey, 120 David L. Boren Blvd., Suite 2900, Norman, OK 73072-7305, Norman, Oklahoma, renee@mesonet.org, (405) 325-2541

Dr. Michael Palecki, Illinois State Water Survey, Champaign, IL *(no longer in position)*

Dr. Cody L. Knutson, National Drought Mitigation Center, University of Nebraska-Lincoln, 820 Hardin Hall, Lincoln, NE 68583-0988, cknutson1@unl.edu, (402) 472-6718

Derek Arndt, Oklahoma Climatological Survey, Norman, Oklahoma *(no longer in position)*

Dr. Donna Woudenberg, National Drought Mitigation Center, University of Nebraska-Lincoln, 804 Hardin Hall, Lincoln, NE 68585-0988, dwoudenberg2@unl.edu, (402) 472-8287

Dr. Jim Angel, Illinois State Climatologist Office, Illinois State Water Survey, Institute of Natural Resource Sustainability, University of Illinois at Urbana-Champaign, 2204 Griffith Drive, Champaign, IL 61820-7463, jimangel@illinois.edu, Champaign, IL, (217) 333-0729

Melissa Widhalm, National Drought Mitigation Center, University of Nebraska-Lincoln, 910 Hardin Hall, Lincoln, NE 68585-0988, mwidhalm3@unl.edu, (402) 472-3172

Michael Spinar, Midwestern Regional Climate Center and Illinois Water Survey, 2204 Griffith Drive, Champaign, IL 61820-7463, mspinar@illinois.edu, (217) 265-6356

NOAA GRANT NUMBER: NA08OAR4310696

PROJECT YEARS 2

TIME PERIOD ADDRESSED BY REPORT (*e.g., August 2002-March 2003*)

April 2009 – March 2010

I. PRELIMINARY MATERIALS

A Project Abstract (*Limit to one page*)

Preventative drought planning is the single most effective action that individuals, communities and states can take to reduce societal vulnerability to drought. Currently, most planning has been done on the state or regional level rather than by municipalities. Communities often have a water supply contingency plan and mistakenly feel that this is adequate preparation to meet the challenges that drought poses to the community. However, community drought preparedness includes a much broader understanding of the risks and impacts of drought on all sectors of a community.

We propose to develop a “Drought Ready Communities” (DRC) program that will raise public awareness of drought and engage communities in integrated, place-based planning to reduce vulnerability to drought. The program will be developed through first selecting geographically and demographically diverse pilot communities. Through listening sessions, interviews, surveys, and workshops with a broad group of stakeholders, the risks and potential impacts of drought as well as the steps needed for communities to fully develop and implement a drought plan will be identified. A kit of educational, public awareness, climatologic, planning, and mitigation resources will be developed and made available to communities across the nation through the project partners’ websites. The collaborative, community-driven process will result in a program that can be replicated by a community of any size to become a “Drought Ready Community.”

The Drought Ready Community program will: 1) help municipalities of all sizes create the governance infrastructure to use the information in the NIDIS portal effectively; and 2) potentially result in substantial savings to communities that avoid future losses from drought.

Drought Ready Communities is a chance to work with people at a grassroots level to incorporate climate science into community planning and decision making. It may also instill a culture of prevention and data-driven decisions. More specifically, the project will:

- Identify the strengths and shortcomings of available climate data, including what’s available through the NIDIS portal, in meeting community-level needs. Investigate the feasibility of developing additional, more community-specific indicators, if needed. (*Team*)
- Identify the strengths and shortcomings of educational and public awareness materials in preparing communities for planning. (*Team*)
- Identify the strengths and shortcomings of available processes for developing community-level climatological history; develop and test a new process, if needed. (*Svoboda, Angel, and Shafer*)
- Identify the strengths and shortcomings of available community-level processes for assessing vulnerability to drought; develop and test a new process, if needed. (*Team*)
- Identify the strengths and shortcomings of available community-level drought planning resources; develop and test a new process, if needed. (*Team*)
- Develop and test a Drought Ready Communities kit. (*Team and Pilot Communities*)
- Define what a community needs to do to be certified as a Drought Ready Community. (*Team and Pilot Communities*)

B Objective of Research Project (*Limit to one paragraph*)

C Approach (including methodological framework, models used, theory developed and tested, project monitoring and evaluation criteria) include a description of the key beneficiaries of the anticipated findings of this project (e.g., decision makers in a particular sector/level of government, researchers, private sector, science and resource management agencies) (*Limit to one page*)

The team will take a two prong approach by:

A. Consolidating, Presenting, and Enhancing Existing Drought Planning Materials Based on Stakeholder Input

This project proposes to develop a program that communities throughout the United States can use to understand and reduce their drought risk. “Drought Ready Communities” will also increase state and local capacity for long-term coordinated drought planning. Pilot communities will be selected based on population, water resource availability, and geographic location.

Following selection of communities, PIs will conduct additional literature reviews to identify the best available information on drought climatology, monitoring, vulnerability, planning, and general awareness, relative to the needs of each community.

Concurrently, PIs will also convene a preliminary listening session in each pilot community, using information gathered while contacting people to refine the package of information being assembled through the literature review. Community participants – stakeholders – will include representatives of local government, businesses, and community groups. A leadership team of local stakeholders who will be the primary reviewers and implementers of the Drought Ready Communities program in their communities will also be established.

B. Developing a Drought Ready Communities Kit and Certification Process

After the listening session, the PIs will find more information resources as needed to fill gaps in the available materials, and will turn the information package into a more self-contained “kit.” Additional interviews will be conducted as needed to better understand communities’ information needs.

C. Benefits to the Pilot Communities

Municipalities that go through the Drought Ready Communities process will benefit from:

- Greater awareness among officials, key stakeholders, and the general public of the threat that drought poses to the community, both in terms of climate and human-induced vulnerability.
- Enhanced, better-defined working relationships between key officials and stakeholders.
- Being better prepared for the next drought, with an understanding of its likely effects and steps that can be taken to reduce vulnerability.
- Knowing exactly what data is available pertaining to the community’s water supply and surrounding economy and environment, and who monitors it.
- Being better-organized to seek outside resources for steps to reduce vulnerability before the next drought.
- Being better-represented in national assessments by knowing how to submit local climate and impacts data to the Drought Impacts Reporter and to the National Weather Service’s Drought Information Statements.

D. Benefits to Researchers and the General Public

1) The Drought Ready Communities kit will be designed by our collaboration team with input from our project partners and participating communities, and when finalized, the tool kit may also be incorporated into the National Integrated Drought Information System’s web portal at drought.gov; 2) Drought Ready Communities Implementation Case Studies will share lessons learned during the process, which will be applicable for other researchers studying how to incorporate climate information into decision making on various time and space scales; 3) Developing Drought Ready Communities will provide a replicable process for community-level drought planning that incorporates state-of-the-art climate monitoring and grassroots decision making; 4) The Drought Ready Communities materials available via the web will be an educational benefit to the general public and others who can profit from greater awareness of drought.

D Description of any matching funds/activities used in this project (*Limit to one paragraph*)

There are no matching funds being used in this project by any of the parties.

II. ACCOMPLISHMENTS

A. Brief discussion of project timeline and tasks accomplished. Include a discussion of data collected, models developed or augmented, fieldwork undertaken, or analysis and/or evaluation undertaken, workshops held, training or other capacity building activities implemented. (*This can be submitted in bullet form – limit to two pages*)

Accomplishments during Project Year 2 (April 2009-March 2010):

- **Quarterly (and more frequently as needed) project conference calls w/ project team**
- **Draft development of a community-driven process in integrating place-based planning to reduce vulnerability to drought**
- **Community “primer” telecons and/or face-to-face feedback on the DRC project and kit from selected Pilot Communities: Nebraska City, NE; Decatur, IL; Norman, OK; Ada, OK and Cordell, OK (Fall/Winter 2009)**
- **“Steps to Community Certification” draft document completed (Fall 2009)**
- **DRC Checklist “Feasibility” Survey conducted**
- **NDMC conducted a scoping workshop with Nebraska City, NE (November 2009)**
- **Community Checklist survey coded into SurveyMonkey (Norman, OK test case conducted)**
- **Developed a draft “drought resources kit” of educational, public awareness, climatological, monitoring, planning and mitigation steps/resources (Winter/Spring)**
- **OU Applied Meteorology/Climatology class projects conducted for DRC: climate information gathering and Public Information/Awareness Statements. A Norman, OK “case study” has emerged from this class project and will be featured in the final product in some fashion.**
- **Two oral presentations on the DRC Project at the American Meteorological Society Annual Meetings in Atlanta, GA. Jan. 2010 (Svoboda/Spinar)**
- **Will be conducting community feedback (DRC Kit/Certification) workshops (Spring 2010: Nebraska City 5/17/10, Norman, Ada and Cordell, OK in June and Decatur, IL in June)**
- **Maintenance of SharePoint project management project site at the NDMC (full access granted to IL and OU partners). All project documentation is maintained on this site.**
- **Team project meeting held in Lincoln, NE with all partners to go over the kit and certification levels prior to spring workshops (March 2010)**

B. Summary of findings, including their potential or actual implications for efforts to develop applications, methods, and science-based decision support capacity/systems and to foster sustainable resource management and vulnerability reduction. (*Limit to two pages*)

The “draft” community drought resources kit has been developed using feedback taken from earlier pilot community activities. This kit will be taken out to all of the communities in a series of workshops during May/June 2010 for

fieldwork due to late arrival during the course of the outcome delivery). *(Limit to*

The only change of note is in the Climatological Survey to the DRC project team. We are currently on schedule to complete this project under the original timeline. A no-cost extension is not expected to be necessary.

C. List of any reports, papers, publications or presentations arising from this project; please send any reprints of journal articles as they appear in the literature. Indicate whether a paper is formally reviewed and published. *(No text limit)*

None to date. It is anticipated this will come toward the completion of the project after Year 2. These materials will also be made available to the NIDIS U.S. Drought Portal (drought.gov) for incorporation into the NIDIS portal.

D. Discussion of any significant deviations from proposed work plan (e.g., shift in priorities following consultation with program manager, delayed of funds, obstacles encountered project that have impacted *one paragraph*)

erson of the Oklahoma

E. Where appropriate, describe the climate information products and forecasts considered in your project (both NOAA and non-NOAA); identify any specific feedback on the NOAA products that might be helpful for improvement. (bulleted response)

The eventual utility/role and integration of the National Integrated Drought Information System (NIDIS) Portal (drought.gov) and potentially the NIDIS Preparedness Working Group may play a role as well as the project evolves beyond the scope of this initial project. We are discussing amongst the project team the best way to move this forward as far as operational implementation. Further funding will be pursued in order to transition this project from the pilot community models to more of a national program if determined to be both viable and feasible. A variety of NOAA (and other state and federal agency) products (operational assessment and forecasts) are included as resources for the communities within our DRC Kit in order to better communicate, understand and incorporate drought and climate.

III. GRAPHICS: PLEASE INCLUDE THE FOLLOWING GRAPHICS AS ATTACHMENTS TO YOUR REPORT

- A. One Power point slide depicting the overall project framework/approach/results to date
- B. If appropriate, additional graphic(s) or presentation(s) depicting any key research results thus far
- C. Photographs (if easy to obtain) from fieldwork to depict study information (if applicable).

IV. WEBSITE ADDRESS FOR FURTHER INFORMATION (IF APPLICABLE)

NA

V. ADDITIONAL RELEVANT INFORMATION NOT COVERED UNDER THE ABOVE CATEGORIES.

NA
